Contents

Preface vii

Conference Organization ix

Editor's Note x

Conference Photographs xi

Chapter 1. Neutrons in fundamental science

Particle physics with neutrons
D. Dubbers 1

New possibilities for neutron EDM search using diffraction by crystal without a centre of symmetry
V.V. Fedorov, V.V. Voronin, E.G. Lapin, O.I. Sumbaev 8

Chapter 2. Chemical structures and dynamics

Neutron spectroscopy of $C_{60}H_x$ quenched under hydrogen pressure
A.I. Kolesnikov, V.E. Antonov, I.O. Bashkin, E.G. Ponyatovsky, A.Yu. Muzychka, A.P. Moravsky, G. Grosse, F.E. Wagner 10

Dynamics and phase transitions in A_1C_{60} compounds
H. Schober, B. Renker, R. Heid, A. Tölle 13

Pressure-induced orthorhombic–rhombohedral phase transition in $NdNiO_3$
M. Medarde, J. Mesot, S. Rosenkranz, P. Lacorre, W. Marshall, S. Klotz, J.S. Loveday, G. Hamel, S. Hull, P. Radaelli 15

Crystal structure and magnetism in the defect perovskite $LaNiO_{2.5}$
J.A. Alonso, M.J. Marínez-Lope, J.L. García-Muñoz, M.T. Fernández 18

Oxygen defect structure in $La_2NiO_{4+\delta}$
W. Paulus, A. Cousson, G. Heger, A. Revcolevschi, G. Dhalenne, S. Hosoya 20

Structural properties of Ga substituted Nd123 compounds
A.M. Niraimathi, C. Ritter, E. Gmelin 23

Structural changes in lanthanide doped $YBa_2Cu_4O_8$
P. Berastegui, S.-G. Eriksson, L.-G. Johansson 26

Dynamics of phason hopping in AlFeCu and AlMnPd quasicrystals
S. Lyonnard, G. Coddens, B. Hennion, Y. Calvayrac 28

Neutron study of dynamics of solid hydrogen under pressure
S.N. Ishmaev, G.V. Kobelev, I.P. Sadikov, V.A. Sukhoparov, A.A. Chernyshov, A.S. Telepnev, B.A. Vindryaevskii, Y.L. Shitikov 30

Site occupation and local modes of hydrogen in V_2N and Ta_2N
S.I. Morozov 32

Multiphonon contributions in inelastic neutron scattering spectra of ice
A.I. Kolesnikov, J.-C. Li 34

Lattice dynamics of KH_2PO_4 at high pressure
A.V. Belushkin, M.A. Adams 37

Polymorphism of RbH_2PO_4 (RDP)
S. Mattauch, W. Paulus, J. Glinnemann, G. Heger 40

Proton dynamics in the hydrogen bond in KHC_2O_4 as studied by inelastic neutron scattering
R.G. Delaplane, J. Noreland, H. Küppers, J. Tomkinson 43

Dynamics of the amide ions in potassium amide: Orientational order and disorder
M. Müller, B. Asmussen, W. Press, J. Senker, H. Jacobs, H. Büttner, W. Kockelmann, R.M. Ibberson 45

Orientational disorder in perovskite like structures of $Li_2X(OD)$ (X = Cl, Br) and $LiBr \cdot D_2O$
C. Eilbracht, W. Kockelmann, D. Hohlwein, H. Jacobs 48

Structure determination and reorientational disorder in two phases of $Sr(ND_2)_2$ nd $Ca(ND_2)_2$
J. Senker, M. Müller, W. Press, H.M. Mayer, R.M. Ibberson, H. Jacobs 51

Hydrogen atom orientation in alkali metal hexaamidostannates (IV) $M_2[Sn(NH_2)_6]$ (M = Na, K, Rb, Cs)/ $M_2[Sn(ND_2)_6]$
F. Flacke, W. Kockelmann, D. Hohlwein, H. Jacobs 54

Neutron incoherent scattering study of NH_3 low energy transitions in hexammine compounds
J. Mayer, J.A. Janik, J. Krawczyk, K. Otnes, O. Steinsvoll, T. Stanek 57

The partial conversion of incoherent into coherent neutron scattering from rotating molecules
W. Prandl, D. Hohlwein, P. Schiebel, K. Siemensmeyer, J. Tu, K. Wulf, Th. Zeiske 59

NH_3 dynamics in $Zn(NH_3)_4I_2$ and $Zn(NH_3)_4Br_2$ investigated by incoherent quasielastic neutron scattering
F. Altorfer, R. Essmann 61

Quantum mechanics of the rotation–translation coupling of NH_3-groups in metal hexaammine salts
P. Schiebel, W. Prandl, K. Wulf, R. Papoular, W. Paulus, G. Heger 64

Ammonium dynamics in $Rb_{1-x}(NH_4)_xSCN$ mixed crystals at 10 K
L.S. Smirnov, I. Natkaniec, S.I. Bragin, L.A. Shuvalov, S.N. Sulyanov 66

Influence of the guest molecule on the rotational motions of amonia groups in Hotmann clathrates
P. Vordesursch, S. Hautecler, G. J. Kearley, F. Kubanek 68

Dynamics of $N(CH_3)_3GeCl_3$
B. Winkler, I. Kaiser, M. Chall, G. Coddens, B. Hennion, R. Kahn 70

The model-free quest for disordered protons in solids
R.J. Papoular, A. Cousson, W. Paulus, E. Kaiser-Morris 72

Disorder of methyl groups with temperature in two molecular crystals by neutron diffraction
E. Kaiser-Morris, W. Paulus, A. Cousson, G. Heger, F. Fillaux 74

Intramolecular rotational coupling of inequivalent CH_3 groups
B. Nicolai, G.J. Kearley, O. Randl, F. Fillaux, P.H. Trommsdorff 76

Water in wairakite: A water–zeolite model system
C.M.B. Line, G.J. Kearley, E. Suard, A. Fitch, I. Swainson 79

Small-angle neutron scattering study of frozen solutions
L. Almásy, L. Cser, I. Dézsi, G. Káli 82

Single-crystal neutron diffraction of bio-active small molecules
C.C. Wilson, N. Shankland, A.J. Florence and C.S. Frampton 84

Disorder in the fast ion conductor CuI
A. Chahid, R.L. McGreevy 87

Determination of the hydrogen position in $Cs_3H(SeO_4)_2$ at 483 K
R. Sonntag, R. Melzer, K.S. Knight 89

Inelastic neutron scattering study of $Cs_{1-x}(NH_4)_xHSO_4$ mixed crystals
A.V. Belushkin, T. Mhiri, S.F. Parker 92

Proton diffusion in $Ba[Ca_{(1+x)/3}Nb_{2-x)/3}]O_{3-x/2}$ studied by quasielastic neutron scattering
M. Pionke, T. Mono, W. Schweika, H. Schober, T. Springer 95

Evidence of lithium ordering in ε-$Li_xV_2O_5$ phase
J.M. Savariault, P. Rozier 97

RMC modelling of rotational disorder in molecular crystals: KCN
L. Karlsson, R.L. McGreevy 100

Structural phase transitions of pyridinium tetrafluoroborate
P. Czarnecki, J. Wąsicki, A. Katrusiak, C. Ecolivet, A. Girard, A. Belushkin 102

Lattice and methyl-group dynamics in solid p-xylene with different deuterated molecules
I. Natkaniec, J. Kalus, W. Griessl, K. Holderna-Natkaniec 104

Rotational molecular dynamics in the R_I phase of n-nonadecane
L. Gonzalez Mac Dowell, F. Guillaume, J.-P. Ryckaert, P. Girard, V. Rodriguez, A.-J. Dianoux 106

Dynamics of channel-type inclusion compounds with guest linear alkyl chains
M. Bée, J. Combet, N.-D. Morelon, M. Ferrand, D. Djurado, A.J. Dianoux, B. Frick 109

Reorientational motions of dioctanoyl peroxide guest molecules within the urea tunnel structure: Assessment of two-site jump models
P. Girard, A.E. Aliev, F. Guillaume, K.D.M. Harris, M.D. Hollingsworth, A.-J. Dianoux, P. Jonsen 112

Molecular dynamics and tunnelling in supramolecular complexes
R. Caciuffo, G. Amoretti, C.J. Carlile, C. Ferrero, S. Geremia, B. Paci, M. Prager, F. Ugozzoli 115

The influence of the rare-earth concentration (R = La, Ce, Pr, Nd; $0.22 \leqslant x \leqslant 0.5$) on the defect structure of the nonstoichiometric phases $Ba_{1-x}R_xF_{2+x}$
L.E. Fykin, L.P. Otroschenko, V.B. Alexandrov, B.P. Sobolev 121

Eigenvectors of the [1 1 1] longitudinal phonons in diamond
J. Kulda, R. Bauer, H. Sterner, D. Strauch 124

The influence of uniaxial deformation on the martensitic phase transformation in Li and LiMg
Ch. Maier, O. Blaschko, W. Pichl 126

Soft phonons and the charge-density-wave transition in alpha uranium
J.-C. Marmeggi, G.H. Lander, R. Currat, C.M.E. Zeyen 129

Anharmonic lattice dynamics and neutron-scattering spectra in BCC-Ti
T. May, D. Strauch 131

Lattice dynamics of Cr_2O_3
T. May, D. Strauch, H. Schober, B. Dorner 133

Spin waves and phonon anomaly in the Heusler alloy Ni_2MnGa
U. Stuhr, P. Vorderwisch, V.V. Kokorin 135

Single-crystal and powder neutron diffraction investigations of thermal motions in K_2PtCl_6 as a function of temperature
J. Schefer, D. Schwarzenbach, P. Fischer, Th. Koetzle, S. Haussühl, M. Rüdlinger 137

Evidence of disorder in the perovskite crystals $RbCaF_3$ and $Rb_{0.65}K_{0.35}CaF_3$ Investigation of phonon acoustic modes by inelastic neutron scattering
M. Rousseau, Ph. Daniel, J. Toulouse, B. Hennion 139

Phonon renormalisation at small q values in the HT-phase of $CsCuCl_3$
U. Förster, H.A. Graf, U. Schotte, U. Stuhr 142

Successive and triggered phase transitions in $Rb_2KM^{3+}F_6$ elpasolites
I. Flerov, M. Gorev, W. Bührer, P. Böni, A. Tressaud, J. Grannec 144

Mean-square displacements of atoms in hexaborides
D.Yu. Chernyshov, M.B. Smirnov, A.V. Menschikova, A.P. Mirgorodsky, V.A. Trounov 146

The influence of periodic mechanical stresses on the incommensurate phase of quartz
H. Gibhardt, G. Eckold, H. Mitlacher 149

Non-equilibrium states in ferroelectrics: Time-resolved studies in Rb_2ZnCl_4
G. Eckold, M. Hagen, U. Steigenberger 151

Decomposition in AgBr–NaBr single crystals
J. Windgasse, G. Eckold, F. Güthoff 153

Transition metal distribution in the $ErMn_{12-x}Fe_x (0 \leqslant x \leqslant 8)$ compounds
M. Artigas, M. Bacmann, D. Fruchart, M. Morales, E. Tomey 155

Cationic distributions in the binary oxide spinels $M_xCo_{3-x}O_4$ (M = Mg, Cu, Zn, Ni)
K. Krezhov, P. Konstantinov 157

Structure of monolayer films of hydrogen isotope mixtures
M. Bienfait, P. Zeppenfeld, L.J. Bovie, O.E. Vilches, H.J. Lauter 159

Deuterium monolayers physisorbed on krypton-plated graphite: A two-dimensional Ising system
H. Wiechert, K.-D. Kortmann, N. Stüßer 164

Neutron-diffraction study of end-for-end ordering in commensurate submonolayers of carbon monoxide physisorbed on the graphite basal plane
K.-D. Kortmann, B. Leinböck, H. Wiechert, S.C. Fain, N. Stüßer 167

Rotational tunnelling and structural phase transitions of NH_3 adsorbed as a submonolayer on MgO{100} surfaces
M. Prager, M. Havighorst, G. Coddens, H. Büttner 170

Mobility of Ga confined in nanostructured alumina
H. Konrad, C. Karmonik, J. Weissmüller, H. Gleiter, R. Birringer, R. Hempelmann 173

Chapter 3. Neutron scattering in biology

Dynamics of proteins: Correlation and diffusion
S. Héry, D. Genest, J.C. Smith 175

Low frequency dynamics of DNA
H. Grimm, A. Rupprecht 183

Neutron scattering in the ribosome structure
I.N. Serdyuk 188

Mapping the messenger RNA within the elongating ribosome
R. Jünemann, J. Wadzack, N. Burkhardt, M. Schmitt, J. Zhao, H.B. Stuhrmann, K.H. Nierhaus 193

Determination of deuterium incorporation in a two-component particle at biosynthetic deuteration by small-angle neutron scattering
L. Fan, E.I. Zgurskaya, I. Shcherbakova, I.N. Serdyuk 196

Architecture of the *E.coli* 70S ribosome
N. Burkhardt, G. Diedrich, K.H. Nierhaus, W. Meerwinck, H.B. Stuhrmann, J. Skov Pedersen, M.H.J. Koch, V.V. Volkov, M.B. Kozin, D.I. Svergun 199

Ribosomal structure research with spin contrast variation
R. Willumeit, M. Schmitt, N. Burkhardt, R. Jünemann, J. Wadzack. K.H. Nierhaus, H.B. Stuhrmann 202

Polarized neutron scattering from selectively polarized proton spin domains
H.B. Stuhrmann, B. van den Brandt, P. Hautle, J.A. Konter, K.H. Nierhaus, T.O. Niinikoski, M. Schmitt, R. Willumeit, J. Zhao, S. Mango 205

Interactions in micellar solutions of β-casein
E. Leclerc, P. Calmettes 207

Dynamics of hydration water in lysozyme
U. Wanderlingh, R. Giordano, W.W. Kagunya 210

Neutron fibre diffraction: Recent advances at the ILL
P. Langan 213

The distribution of water in highly ordered fibres of hyaluronic acid
A. Deriu, F. Cavatorta, T. De Micheli, A. Rupprecht, P. Langan 215

Neutron diffraction on purple membranes
Essential water molecules in the light-driven proton pump bacteriorhodopsin
T. Hauß, G. Papadopoulos, S.A.W. Verclas, G. Büldt, N.A. Dencher 217

Conformational changes and spatial arrangement of the *E. coli* chaperones GroEL and GroES
R. Stegmann, E. Manakova, S. Axmann, M. Rößle, T. Hermann, R.P. May, A. Wiedenmann, A. Plückthun, H. Heumann 220

Low frequency dynamics in the enzyme superoxide dismutase revealed by inelastic neutron scattering
C. Andreani, A. Deriu, A. Filabozzi, D. Russo 223

SANS measurements on sulfolobus solfataricus ribosome as a function of temperature and magnesium concentration
G. Briganti, R. Giordano, P. Londei, F. Pedone 225

Dynamic of a globular protein as studied by neutron scattering and solid-state NMR
J.-M. Zanotti, M.-C. Bellissent-Funel, J. Parello 228

Chapter 4. Neutron scattering from polymers and soft matter

Structural and dynamical properties of polymer electrolytes PPO–$LiClO_4$
P. Carlsson, J. Swenson, R.L. McGreevy, B. Gabrys, W.S. Howells, L. Börjesson, L.M. Torell 231

SANS investigations of topological constraints and microscopic deformation in polymer networks
W. Pyckhout-Hintzen, S. Westermann, V. Urban, D. Richter, E. Straube 236

The structure of high-performance polymer blends by small-angle neutron scattering
J. Caspar, B. Dünges, R.G. Kirste, T. Heitz, A. Wiedenmann 240

Structural properties of conducting and semiconducting polymers
A. Galatanu, M.I. Chipara, M.D. Chipara, M. Toacsen 242

Deviation of early stage of spinodal decomposition from the Cahn–Hilliard–Cook theory observed in an isotopic polymer blend
G. Müller, D. Schwahn, H. Eckerlebe, J. Rieger, T. Springer 245

The self-organization of diblock copolymers at polymer blend interfaces
R. Schnell, M. Stamm 247

Backbone conformation study on "side-on fixed" liquid crystal polymers
S. Lecommandoux, L. Noirez, M.F. Achard, A. Brûlet, J.P. Cotton, F. Hardouin 250

From phase orientation to phase destruction Opposite shear flow induced effects
L. Noirez, G. Pépy. A. Lapp 252

Characterization of self-assembled multilayers of polyelectrolytes
R. Bijlsma, A.A. van Well, M.A. Cohen Stuart 254

Selective study of the diffusive dynamics of hydration water in polymeric aqueous solutions
V. Crupi, S. Magazu, D. Majolino, P. Migliardo, U. Wanderlingh 256

Dynamics of bimodal polymer melts in the crossover-region from Rouse-to reptation-like behaviour – A study with NSE-spectroscopy
S. Rathgeber, A. Zirkel, L. Willner, D. Richter, A. Brulet, B. Farago 258

Pressure and temperature effects in homopolymer blends and diblock copolymers
H. Frielinghaus, D. Schwahn, K. Mortensen, L. Willner, K. Almdal 260

The glass transition phenomenon in macromolecular systems
M.I. Chipara 263

SANS studies of solubilization by micelles
H. Pospíšil, M. Steinhart, J. Pleštil 266

Organisation and shape of micellar solutions of block copolymers
J.P. Gaspard, S. Creutz, Ph. Bouchat, R. Jérôme, M. Cohen Stuart 268

Large-scale structure of polycrylamide gels
A. Deriu, F. Cavatorta, D. Asnaghi, A. Bossi, P.G. Righetti 271

Structure and flexibility of worm-like micelles
G. Jerke, J.S. Pedersen, S.U. Egelhaaf, P. Schurtenberger 273

A time-resolved small angle neutron scattering study of the micelle-to-vesicle transition
S.U. Egelhaaf, P. Schurtenberger 276

SAS experiments on inorganic gels
K. Sinkó, R. Mezei, L. Cser, Gy. Káli, P. Fratzl 279

The diffusive dynamics of water confined in ganglioside micelles
L. Cantù, F. Cavatorta, M. Corti, E. Del Favero, A. Deriu 281

SANS contrast in iota-carrageenan gels and solutions in D_2O
N. Mischenko, B. Denef, K. Mortensen, H. Reynaers 283

Neutron reflectometry and small-angle neutron scattering – Two complementary techniques for polymer blend investigations
D.W. Schubert, M. Stamm 286

Protein-polysaccharide mixtures structure of the systems and the effect of shear studied by SANS
D. Renard, F. Boué, J. Lefebvre 289

Structural analysis of refractory organic substances by small-angle neutron scattering
A. Knöchel, K. Pranzas, H. Stuhrmann, R. Willumeit 292

SANS on fluorinated water-in-oil microemulsions
P. Baglioni, C.M.C. Gambi, R. Giordano 295

Silica particle aggregates in LC-matrix
A. Jákli, Gy. Káli, L. Rosta 297

SANS on micellar solutions of octyl-18-crown-6
P. Baglioni, C.M.C. Gambi, R. Giordano, P. Lo Nostro, J. Teixeira 300

Polyelectrolyte persistence length in semidilute solution as a function of the ionic strength
M.N. Spiteri, F. Boué, A. Lapp, J.P. Cotton 303

Strain amplification effects in polymer networks
S. Westermann, M. Kreitschmann, W. Pyckhout-Hintzen, D. Richter, E. Straube 306

Chapter 5. Liquids

Neutron Brillouin scattering in liquid ^{36}Ar
B. Mos, P. Verkerk, U. Bafile, C. Benmore, J.-B. Suck, F. Barocchi, J. Cook, K. Anderson 308

Heavily damped sound modes in dense krypton gas studied by neutron Brillouin scattering
U. Bafile, C. Benmore, P.A. Egelstaff, B. Mos, J.-B. Suck, P. Verkerk, K. Andersen, F. Barocchi, J. Cook 311

An experimental investigation of the interaction law of Kr atoms through small-angle neutron scattering
C.J. Benmore, F. Formisano, R. Magli, U. Bafile, F. Barocchi, P.A. Egelstaff, R.A. Robinson, P. Verkerk 313

The critical scattering universal function measured through sans: An experimental test of the scaling laws
F. Formisano, P. Damay, J.F. Jal, F. Leclercq, R. Magli 319

Neutron scattering from liquid ^{3}He at intermediate energies
K. Guckelsberger, R.T. Azuah, W.G. Stirling, S.M. Bennington, M. Yates 321

Neutron study of liquid ^{4}He $S(Q, \omega)$ at the phonon–maxon region
I.V. Bogoyavlenskii, A.V. Puchkov, A.N. Skomorokhov, S.V. Poupko 324

High-resolution study of the maxon–roton signal parameters in superfluid ^{4}He
G. Zsigmond, F. Mezei, C.J. Carlile 327

Atomic and molecular momentum distributions in quantum fluids by Neutron Compton Scattering
C. Andreani, D. Colognesi, A. Filabozzi, M. Nardone, E. Pace 329

The structure of low-density ortho-deutrium investigated through neutron diffraction
M. Celli, F. Barocchi, H. Fischer, R. Magli 331

Temperature dependence of single-particle kinetic energy in fluid parahydrogen
C. Andreani, D. Colognesi, A. Filabozzi, M. Nardone 334

Neutron Compton scattering of water
P. Zetterström, A.K. Soper, P. Schofield 337

Study of Li^{+} ion hydration by inelastic neutron scattering
A.G. Novikov, M.N. Rodnikova, V.V. Savostin, O.V. Sobolev 340

Small–angle neutron scattering from silica particles in solution with different concentrations
F. Carsughi, D. Schwahn 343

Solute–solute correlation in aqueous solution of tetramethylurea
S. Ansell, L. Cser, T. Grósz, G. Jancsó, P. Jóvári, A.K. Soper 347

The nature of the interaction of tetramethylurea in various solvents
L. Cser, T. Grósz, G. Jancsó, G. Káli 349

Transition from rod- to disk-like micelles in APFO/D_2O/NH_4Cl systems studied by SANS and SAXS
B. Kunze, J. Kalus, N. Boden, M.S.B. Brandao 351

The intermolecular potential of methane A neutron diffraction study on low-density CD_4
E. Guarini, U. Bafile, F. Cilloco, R. Magli, F. Barocchi 353

Chain length dependence and H-bond effects on diffusive processes of alcohols by IQENS, DLS and NMR
S. Magazu, M.P. Jannelli, P. Migliardo, U. Wanderlingh 355

MCGR: An inverse method for deriving the pair correlation function from the structure factor
L. Pusztai, R.L. McGreevy 357

Collective dynamics of liquid potassium studied by inelastic neutron scattering
A.G. Novikov, V.V. Savostin, A.L. Shimkevich, M.V. Zaezjev 359

Large clusters in liquid potassium–thallium alloys
S.A. van der Aart, P. Verkerk, L.A. de Graaf, W. van der Lugt, Y.S. Badyal, V.W.J. Verhoeven 362

A cinnabar local order in liquid II–VI compounds
J.Y. Raty, J.P. Gaspard, R. Céolin, R. Bellissent 364

Neutron diffraction studies on expanded liquid Cs–Tl
O. Leichtweiß, K. Hochgesand, R. Winter 367

Water in confined geometries
J. Teixeira, J.-M. Zanotti, M.-C. Bellissent-Funel, S.-H. Chen 370

Isotope substitution of interfacial fluids in vermiculite clays
G.D. Williams, N.T. Skipper, M.V. Smalley 375

Preordering phenomena of complex fluids at solid/liquid interfaces
R. Steitz, Chr. Braun, P. Lang, G. Reiss, G.H. Findenegg 377

Chapter 6. Glasses and glass transitions

On the origin of the anomalous temperature dependence of the first diffraction peak in v-B_2O_3
R. Fernández-Perea, F.J. Bermejo, J. Dawidowski, H. Schober 380

Sound waves and other modes in the strong glassformer B_2O_3
L. Börjesson, U. Buchenau, A.J. Dianoux, D. Engberg, A.P. Sokolov, A. Wischnewski 383

Structure and conductivity of fast ion-conducting borate glasses
J. Swenson, L. Börjesson, R.L. McGreevy, W.S. Howells 386

Short-range order in ultraphosphate glasses
U. Hoppe, G. Walter, R. Kranold, D. Stachel, A. Barz, A.C. Hannon 388

Fast dynamics of $Na_{0.5}Li_{0.5}PO_3$ observed by coherent neutron scattering
B. Rufflé, S. Beaufils, J. Etrillard, G. Coddens, B. Toudic, C. Ecolivet 391

The titanium environment in a potassium silicate glass measured by neutron scattering with isotopic substitution
L. Cormier, P.H. Gaskell, G. Calas, J. Zhao, A.K. Soper 393

SANS experiments in organically modified silica xerogels
F. Cavatorta, D.A. Cauzzi, G. Predieri 396

Inelastic neutron scattering study of the glass former $ZnCl_2$
E. Kartini, M.F. Collins, F. Mezei, E. Svensson 399

On the morphology and surface geometry of Vycor
F. Katsaros, P. Makri, A. Mitropoulos, N. Kanellopoulos, U. Keiderling, A. Wiedenmann 402

Structure of amorphous Al_2O_3
P. Lamparter, R. Kniep 405

High-pressure neutron powder diffraction on the solid solution series $(ND_4)_xK_{1-x}I$
K. Knorr, A. Krimmel, A. Loidl, W. Depmeier 407

Ammonium dynamics and structural phase transition in $K_{1-x}(NH_4)_xI$ mixed salts at 10 K
I. Natkaniec, L.S. Smirnov 409

Central peaks in $(NH_4I)_x(KI)_{1-x}$
M. Ohl, F. Güthoff, A. Loidl 412

A neutron diffraction study of $Ca_{0.4}K_{0.6}(NO_3)_{1.4}$ from the glass to liquid state
C. Tengroth, J. Swenson, L. Börjesson 414

Short-range order in $Ni_{83}La_{17}$ metallic glass
M.I. Mendelev, S.N. Ishmaev, F. Hajdu, Gy. Meszaros, E. Svab 416

In situ study of the crystallization process and magnetism in some FeNbSiBCu amorphous alloys
L. Fernández Barquín, P. Gorria, J.M. Barandiarán, J.C. Gómez Sal, J. Rodríguez Carvajal 418

The study of the glass transitions in a $Ge_{0.033}As_{0.033}Se_{0.934}$ glass
M. Russina, F. Mezei, W. Miekeley, W. Rönnfeld, R. Lechner 421

Structure of Cu–As–Te glasses – Neutron diffraction and reverse Monte Carlo simulations
N. Zotov, R. Jimenez-Garay, F. Bellido, M. Dominguez, A.C. Hannon, R. Sonntag 424

Analysis of SANS-data with models of stochastic geometry
P. Uebele, H. Hermann, A. Wiedenmann, K. Wetzig 426

Incoherent dynamical structure factor of the compressed fragile liquid orthoterphenyl
A. Tölle, H. Schober, J. Wuttke, F. Fujara, O. Randl 428

Viscous glycerol
J. Wuttke, I. Chang, F. Fujara, W. Petry 431

Polymorphic ethyl alcohol as a model system for the quantitative study of glassy behavior
H.E. Fischer, F.J. Bermejo, R. Fayos, J. Dawidowski, M.A. Ramos, S. Vieira, H. Schober, M.A. González 433

Free volume and microscopic dynamics in amorphous polymers
J. Bartoš, J. Krištiak, T. Kanaya 435

Coherent quasielastic scattering from internal relaxations in polymers
A. Arbe, D. Richter, J. Colmenero, B. Farago 437

QENS investigation of the segmental dynamics of a PVME/dPS miscible polymer blend
A. Alegría, I. Cendoya, J. Colmenero, J.M. Alberdi, B. Frick 442

Relaxations versus crosslink density in glass- and gel-forming polyurethane
Y. Scheyer, C. Levelut, J. Pelous, J.C. Cook, M. Johnson, F. Prochazka, D. Durand 445

The relationship between intermediate-range order in glasses and discernible features in the static structure factor
R. Fayos, F.J. Bermejo, J. Dawidowski, H.E. Fischer, M.A. González 448

Experimental study of partial vibrational spectra in amorphous alloys
G.F. Syrykh, M.G. Zemlyanov, S.N. Ishmaev 450

How to calculate the true vibrational density of states from inelastic neutron scattering
S.N. Taraskin, S.R. Elliott 452

Structure and dynamics of the opal silica–water system
I. Sosnowska, U. Buchenau, G. Reichenauer, H. Graetsch, K. Ibel, B. Frick 455

Chapter 7. Magnetism

Magnetic multilayers studied by polarised neutron reflection
J.A.C. Bland 458

Spin density waves in epitaxial Fe/Cr films
P. Bödeker, P. Sonntag, A. Schreyer, J. Borchers, K. Hamacher, H. Kaiser, H. Zabel 464

Structural and magnetic properties of Fe/Cr and Fe/Ag multilayers
K. Temst, G. Verbanck, R. Schad, G. Gladyszewski, M. Hennion 467

Polarised neutron reflectivity from a [UAs/Co] multilayer
D. Mannix, W.G. Stirling, D.G. Bucknall, P.W. Haycock, S.D Brown, G.H. Lander, T.S. Plaskett 470

Structural and magnetic properties of Ce/Fe and Ce/FeCoV multilayers
S. Tixier, D. Mannix, P. Böni, W.G. Stirling, G.H. Lander 473

Non-specular polarized neutron scattering from rough interfaces in periodic multilayered magnetic structures
V. Syromyatnikov, B. Toperverg, V. Deriglazov, A. Schebetov, T. Ebel, R. Kampmann, R. Wagner 475

Non-collinear spin structures in CeH_2/Fe
W. Lohstroh, O. Schulte, F. Klose, M. Münzenberg, W. Felsch, H. Maletta, H. Lauter 477

Magnetic coupling in Fe/Nb multilayers
Ch. Rehm, F. Klose, D. Nagengast, H. Maletta, A. Weidinger 480

Hydrogen-induced switching of the magnetic coupling in an Fe/Nb multilayer
Ch. Rehm, F. Klose, D. Nagengast, H. Maletta, A. Weidinger 483

In-situ hydrogen concentration measurements in multilayers using neutron reflectivity
Ch. Rehm, F. Klose, D. Nagengast, H. Maletta, A. Weidinger 486

Magnetic properties of Gd/Fe and Fe/Gd bilayer systems
Y. Li, C. Polaczyk, F. Mezei, D. Riegel 489

Polarized neutron reflection study of Gd/W multilayers
Y. Li, C. Polaczyk, J. Kapoor, F. Klose, F. Mezei, D. Riegel 492

The structural and magnetic properties of holmium/scandium superlattices
C. Bryn-Jacobsen, R.A. Cowley, D.F. McMorrow, J.P. Goff, R.C.C. Ward, M.R. Wells 495

(Anti-)ferromagnetic coupling in Fe/Si multilayers from polarized neutron reflectometry
H. Fredrikze, A. van der Graaf, M. Valkier, J. Kohlhepp, F.J.A. den Broeder 498

Magnetic in-plane anisotropy in sputtered FeCo films and multilayers
D. Clemens, A. Vananti, C. Terrier, P. Böni, B. Schnyder, S. Tixier, M. Horisberger 500

Polarized neutron reflectivity studies on thin CuCo-multi-layer films
C. Bittorf, R. Kampmann, R. Wagner 502

In-situ polarized neutron reflectivity of ultrathin epitaxial Fe layers on V(1 1 0)
T. Nawrath, H. Fritzsche, F. Klose, J. Nowikow, C. Polaczyk, H. Maletta 505

Reflectivity and evanescent diffraction of polarized neutrons from Ni(1 1 0)
R. Günther, S. Odenbach, O. Schärpf, H. Dosch 508

Observation of magnetic thin films neutron waveguides
A. Menelle, S.P. Pogossian, H. Le Gall, J.M. Desvignes, J. Ben Youssef 510

Refraction of polarized neutrons in a magnetically non-collinear layer
V.L. Aksenov, E.B. Dokukin, S.V. Kozhevnikov, Yu.V. Nikitenko, A.V. Petrenko, J. Schreiber 513

On optical interaction of neutrons with magnetic media
N.K. Pleshanov 516

New possibilities of polarised neutron reflectometry in the study of domain structure of thin magnetic films
V.M. Pusenkov, N.K. Pleshanov, V.G. Syromyatnikov, V.A. Ul'yanov A.F. Schebetov 519

Spin analysis and new effects in reflectivity measurements
F. Ott, C. Fermon 522

Polarised neutron scattering from the surface and bulk of magnetic fluid
V.T. Lebedev, G.P. Gordeev, L.A. Axelrod, I.M. Lazebnik, Gy. Török, L. Cser, L. Rosta 525

Structural fluctuations and magnetic excitations in the spin–Peierls system $CuGeO_3$
L.P. Regnault 528

Effect of magnetic field and Si-doping on the spin–Peierls phase of $CuGeO_3$
B. Grenier, L.P. Regnault, J.E. Lorenzo, J. Bossy, J.P. Renard, G. Dhalenne, A. Revcolevschi 534

Magnetic excitation spectrum from spin–Peierls system, $CuGeO_3$
M. Fujita, M. Arai, M. Motokawa, O. Fujita, J. Akimitsu, S.M. Bennington, C.D. Frost 536

Magnetic excitation in spin–Peierls compound NaV_2O_5
T. Yosihama, M. Nishi, K. Nakajima, K. Kakurai, Y. Fujii, M. Isobe, Y. Ueda 539

Spin dynamics under high magnetic field in the Haldane-gap system NENP
L.P. Regnault, J.P. Renard 541

The spin dynamics of $(VO)_2P_2O_7$: A Heisenberg spin ladder
R.S. Eccleston, M.J. Steiner 544

Spiral order in $Ba_2CuGe_2O_7$
A. Zheludev, G. Shirane, Y. Sasago, N. Koide, K. Uchinokura 546

Identification of different magnetic modes in $CsFeCl_3$ by polarisation analysis
B. Dorner, B. Toperverg, M. Baehr, D. Petitgrand 549

Instability of sine-Gordon-like solitons in $CsNiF_3$ at $B \geqslant 1.8$ T
M. Baehr, M. Winkelmann, P. Vorderwisch, M. Steiner 552

Chiral critical behaviour in $CsNiCl_3$
M. Enderle, R. Schneider, Y. Matsuoka, K. Kakurai 554

Models of magnetic excitations in the dimer-chain compound $CuWO_4$
B. Lake, D.A. Tennant 557

Magnon dispersion and magnetic phase diagram of $MnWO_4$
H. Ehrenberg, H. Weitzel, H. Fuess 560

The magnetic excitation spectrum of Rb_2MnCl_4
H. Tietze-Jaensch, R. v. d. Kamp, W. Schmidt, R. Geick, W. Treutmann, P. Vorderwisch 564

Temperature evolution of the magnetic structures in R_2BaNiO_5 oxides
E. García Matres, J.L. Martínez, J. Rodríguez-Carvajal 567

Magnetic structure of Nd_2BaCoO_5
J. Hernández-Velasco, R. Sáez Puche, J. Rodríguez-Carvajal 569

Spin dynamics in 1D antiferromagnetic system $Y_2BaNi_{1-x}Zn_xO_5$
F.J. Mompeán, M. García-Hernández, J.L. Martínez, E. García-Matres, C. Prieto, A. de Andrés, R. Sáez-Puche, R.S. Eccleston, H. Schober 572

Magnetic phase diagrams of $CoNb_2O_6$
C. Heid, H. Weitzel, P. Burlet, M. Winkelmann, H. Ehrenberg, H. Fuess 574

Magnetocrystalline transformation and low-temperature structure of $CsFeS_2$
D. Welz, M. Winkelmann, H.M. Mayer, M. Nishi 576

Magnetic structures of antiferromagnetic chain fluorides A_2MnF_5, xH_2O
T. Roisnel, P, Nuñez, W. Massa, A. Tressaud 579

Influence of the mosaic spread on the shape of the $\langle 100 \rangle$ 109°-Bloch wall in a nickel single crystal
A. Höfer, H. Strothmann, W. Treimer 582

Multiple small-angle neutron scattering in ferromagnets
A.Z. Menshikov, S.G. Bogdanov, Y.N. Skryabin 584

Observation of two length scales of magnetic correlations in FeNi alloy above T_C
S.V. Grigoriev, S.V. Maleyev, V.V. Runov, A.I. Okorokov 586

Observation of the magnetic temperature hysteresis in invar FeNi alloy above T_C
S.A. Klimko, S.V. Grigoriev, V.V. Runov, A.I. Okorokov 588

The ferromagnetic order in the mixed phase of the re-entrant spin glass FeNiMn
J. Klenke, M. Fricke, J. Hesse, W. Kraan, E. Krüger, M.Th. Rekveldt, V. Wagner 590

Magnetic correlations in $Y(CoMn)_2$ and $Y(CoFe)_2$
R. Cywinski, S.H. Kilcoyne 592

Magnetism and local order in AlPdMn liquid alloys
V. Simonet, H. Klein, R. Bellissent, F. Hippert, M. Audier 594

Structural distortions in doped YMn_2 compounds
C. Ritter, R. Cywinski, S.H. Kilcoyne 596

Neutron diffraction study of YMn_2D_1
M. Latroche, V. Paul-Boncour, A. Percheron-Guégan, F. Bourée-Vigneron, G. André 599

Magnetization density in the half-metallic ferromagnet NiMnSb
Ch. Hordequin, E. Lelièvre-Berna, J. Pierre 602

How do magnetic excitations behave in half metallic ferromagnets? The case of NiMnSb
Ch. Hordequin, J. Pierre, R. Currat 605

Crystal and magnetic structure of the $YSrCuFeO_{5+y}$ compound
G. Kallias, M. Pissas, C. Christides, R. Sonntag, D. Niarchos 608

SANS investigation at partially crystallized $(Fe, Nb)_{77.5}Si_{15.5}B_7Cu_1$ alloys
A. Danzig, A. Wiedenmann, N. Mattern 611

Unusual magnetic interactions in compounds with the $ThMn_{12}$ structure
J.A. Paixão, S. Langridge, S.Aa. Sørensen, B. Lebech, A.P. Gonçalves, G.H. Lander, P.J. Brown, P. Burlet, E. Talik 614

Mechanically induced cation redistribution in $ZnFe_2O_4$ and its thermal stability
V. Šepelák, K. Tkáčová, V.V. Boldyrev, S. Wißmann, K.D. Becker 617

The influence of Al on the magnetic properties of synthetic goethite
S.H. Kilcoyne, C. Ritter 620

Anomalous AF–SF line boundary in the phase diagram of $Rb_2Fe_{1-x}In_xCl_5 \cdot H_2O$ solid solutions
J. Campo, F. Palacio, A. Paduan-Filho, C.C Becerra, M.T. Fernández-Díaz, J. Rodríguez-Carvajal 622

Neutron diffraction and spin freezing in ferrates with iron in pyramidal oxygen coordination
B. Seling, A. Ehmann, S. Kemmler-Sack, J. Linhart, W. Reimers, G. Filoti, A. Avramescu, M. Rosenberg 625

Wavelength dependent neutron depolarization in some metallic glasses
K. Krezhov, P. Konstantinov, V. Lilkov 628

Neutron diffraction study of the magnetic ordered Nd^{3+} in $NdCoO_3$ and $NdInO_3$ below 1 K
I. Plaza, E. Palacios, J. Bartolomé, S. Rosenkranz, C. Ritter, A. Furrer 632

Neutron diffraction study of $NdScO_3$ below 1 K
Magnetic structure and hyperfine enhanced polarization of Nd
I. Plaza, E. Palacios, J. Bartolomé, S. Rosenkranz, C. Ritter, A. Furrer 635

The influence of the enthalpy of mixing on the Fe-substitution in $Nd_2Fe_{16.5}X_{0.5}$ (X = Al, Ti, Nb, W)
Er. Girt, Z. Altounian, I.P. Swainson 637

Diffuse magnetic neutron scattering in $NdCu_2$
T. Reif, M. Loewenhaupt, P. Svoboda, W. Schweika, E. Gratz, M. Rotter, G. McIntyre 640

Observation of higher-order harmonics in AF phase of $NdCu_2$
P. Svoboda, T. Reif, M. Loewenhaupt, M. Rotter, E. Gratz, G. McIntyre 642

Magnetic properties of NdPtAl
H. Kitazawa, A. Dönni, P. Fischer, J. Tang, G. Kido, F. Fauth, M. Zolliker 644

Muon study of Gd_2In, Sm_2In and Ho_2In
D. Ravot, M. Latroche, A. Percheron-Guegan 647

Magnetic structures of $RNiSb_2$ (R = Pr, Nd and Tb) compounds
G. André, F. Bourée, A. Oleś, B. Penc, W. Sikora, A. Szytula 650

Crystallographic and magnetic structure of the novel compound $ErGe_{1.83}$
O. Oleksyn, P. Schobinger-Papamantellos, C. Ritter, C.H. de Groot, K.H.J. Buschow 652

Low-temperature structures of the $Er_2Fe_{14}B$ ferromagnetic compound
P. Wolfers, M. Bacmann, D. Fruchart 654

Magnetic structures of RCuGe (R = rare earth) compounds
S. Baran, A. Szytula, J. Leciejewicz, N. Stüsser, A. Zygmunt, Z. Tomkowicz, M. Guillot 656

The $(Nd_{1-x}Tb_x)Co_2Ge_2$ system: Confirmation of the "spin-charge" concept by neutron diffraction
E. Caspi, M. Kuznietz, M. Melamud, H. Pinto, H. Shaked 659

The magnetic structure of $Y(Mn_{0.8}Co_{0.2})_2Si_2$
S.J. Campbell, M. Hofmann, R. Cywinski 661

Magnetic structures of the $R_2Ni_3Si_5$ compounds (R = Tb, Dy, Ho)
A. Szytula, M. Kolenda, E. Ressouche 663

Neutron diffraction study of magnetic ordering in RNiAl compounds
P. Javorský, P. Burlet, V. Sechovský, R.R. Arons, E. Ressouche, G. Lapertot 665

Frustrated Magnetic Moments in RNiAl intermetallic compounds
G. Ehlers, H. Maletta 667

Change from antiferromagnetic to ferromagnetic order in the pseudo-ternary series $TbNi_{1-x}Cu_xAl$
G. Ehlers, D. Ahlert, W. Miekeley, H. Maletta 670

Commensurate and incommensurate magnetic structure components of Tb-(Co, Ni)-dicarbides
W. Kockelmann, W. Schäfer, J.K. Yakinthos, P.A. Kotsanidis, G.F. Papathanassiou, J. Linhart 673

Magnetic structures and bulk magnetic properties of $YbCu_4M$, M = Au, Pd
E. Bauer, P. Fischer, F. Marabelli, M. Ellerby, K.A. McEwen, B. Roessli, M.T. Fernandes-Dias 676

Magnetic ordering in rare-earth formates
V. Trounov, E. Tserkovnaya, S. Gavrilov, S. Vahrushev 679

Existence of two length scales in critical scattering in $CeAl_2$
T. Chattopadhyay, G.J. McIntyre 682

On the magnetic structure of $CeAl_2$: a 3-d neutron polarization analysis investigation
F. Givord, J. Schweizer, F. Tasset 685

Very low-temperature magnetic structure in Ce_3Al_{11}
J.X. Boucherle, F. Givord, G. Lapertot, J. Schweizer, S. Pujol, B. Ouladdiaf 687

Mictomagnetic behaviour of $CeNi_{0.84}Sn_2$: A neutron diffraction and magnetic study
P. Schobinger-Papamantellos, J. Rodríguez-Carvajal, K. Prokes, K.H.J. Buschow 689

Magnetic order of the heavy-fermion URu_2Si_2 in a field of 12 T
N.H. van Dijk, F. Bourdarot, B. Fåk, F. Lapierre, L.P. Regnault, P. Burlet, J. Bossy, N. Pyka, A.A. Menovsky 692

Neutron diffraction study of magnetic structure of U_3Bi_4 and U_3Sb_4
A. Gukasov, P. Wiśniewski, Z. Henkie 694

The crystal and magnetic structures of UFe_xAl_{12-x} alloys
K. Rećko, M. Biernacka, L. Dobrzyński, K. Perzyńska, D. Satuča, K. Szymański, J. Waliszewski, W. Suski, K. Wochowski, G. André, F. Bourée 696

Spin waves and other magnetic fluctuations in giant magnetoresistive perovskite manganites
T.G. Perring, G. Aeppli, S.M. Hayden, Y. Moritomo, Y. Tokura, J. P. Remeika, S-W Cheong 698

Magnetic excitations of Nd in $Nd_{2-x}Ce_xCuO_4$ ($x = 0$ and 0.13)
W. Henggeler, T. Chattopadhyay, P. Thalmeier, B. Rössli, P. Vorderwisch, A. Furrer 703

Structural and magnetoresistance study of $La_xMn_yO_{3\pm z}$
M. Jiménez, J.L. Martínez, E. Herrero, J. Alonso, C. Prieto, A. de Andrés, M. Vallet-Regí, J. González-Calbet, M.T. Fernández-Díaz 708

Magnetic state of compounds $La_{1-x}Ba_xCo_{1-y}Mn_yO_3$
V.I. Voronin, A.E. Karkin, A.N. Petrov, A.N. Pirogov, V.A. Cherepanov, A.E. Teplych, E.A. Filonova 710

Structural and magnetic disorder in GMR materials
A. Mellergård, R.L. McGreevy 713

Field-induced double-***k*** to single-***k*** phase transition in Nd_2CuO_4 at millikelvin temperatures
T. Chattopadhyay, K. Siemensmeyer, H. Schneider 715

Dispersion of crystal field excitations in Nd_2CuO_4 and Pr_2CuO_4
A. Ivanov, D. Petitgrand, P. Bourges, P. Alekseev 717

Influence of the reduction and of the oxidation on $Nd_{2-x}Ce_xCuO_{4\pm\delta}$
P. Vigoureux, W. Paulus, J.Y. Henry, S. Pinol, G. Heger 719

Neutron diffraction study of a $La_2CoO_{4.15}$ single crystal
J.S. Gardner, D.McK. Paul, B. Lebech 721

Spin dynamics in the high-T_c superconductor $La_{2-x-y}Sr_xRE_yCuO_4$
M. Roepke, E. Holland-Moritz, G. Coddens, J. Fitter, R.E. Lechner 723

Polarization analysis of spin waves in Bi_2CuO_4
B. Roessli, B. Fåk, M.-T. Fernández-Díaz, K. Sablina, G. Petrakovskii 726

Crystal-field energy levels on Pr_2NiO_4 by inelastic neutron scattering and heat-capacity measurements
M. Castro, R. Burriel, J. Pérez, A.T. Boothroyd, A. Longmore, R. Eccleston 728

High-energy magnetic excitations in CuO
A.T. Boothroyd, A. Mukherjee, S. Fulton, T.G. Perring, R.S. Eccleston, H.A. Mook, B.M. Wanklyn 731

Polarized neutron scattering investigations of the magnetic structure of $La_8Cu_7O_{19}$ single crystals
I.A. Zobkalo, V.A. Polyakov, O.P. Smirnov, S.V. Gavrilov, S.N. Barilo, D.I. Zhigunov, M. Bonnet 734

Influence of magnetic order on superconducting properties of $Ho_xY_{1-x}Ni_2B_2C$
A. Kreyssig, M. Loewenhaupt, K.-H. Müller, G. Fuchs, A. Handstein, C. Ritter 737

Crystal fields and exchange interactions in HoT_4Al_8 with T = Mn and Fe
P. Tils, M. Loewenhaupt, C.-K. Loong, H. Schober 739

Moment reduction by the crystal field interaction in $ErCu_4Al_8$
B. Paci, G. Baio, G. Amoretti, O. Moze, R. Caciuffo, K.H.J. Buschow 741

Crystal electric field and dimer splitting in $Cs_3Er_2X_9$ (X = Cl, Br)
P. Allenspach, A. Furrer, H.U. Güdel, N. Furer, H. Büttner 744

A general approach for the calculation of the energy levels and the inelastic neutron scattering cross-section of highly nuclear magnetic clusters
J.J. Borrás-Almenar, J.M. Clemente, E. Coronado, B.S. Tsukerblat 746

Critical dynamics in EuO below the Curie point
S. Schorr, P. Vorderwisch, F. Mezei 749

Precise measurements of spin-wave parameters in ferromagnets by polarized neutrons
V. Deriglazov, H. Eckerlebe, M. de Jong, R. Kampmann, E. Mal'tsev, A. Okorokov, V. Runov, B. Toperverg, R. Wagner 752

Magnetic excitations in NpBi
F. Bourdarot, P. Burlet, P. Bossy, B. Fåk, G.H. Lander, J. Rebizant, L.P. Regnault, J.C. Spirlet 754

Dynamics of $PrNi_2Si_2$ in its modulated magnetic phase
J.A. Blanco, B. Fåk, R.M. Nicklow, B. Roessli, D. Schmitt 756

Elastic and inelastic neutron scattering on $NdNi_{1-x}Cu_x$
J. García Soldevilla, J.I. Espeso, J.A. Blanco, J.C. Gómez Sal, P. Galez, D. Paccard, J. Rodríguez-Carvajal, B. Ouladdiaf 758

Neutron scattering study of spin waves in $TbFeO_3$
A. Gukasov, U. Steigenberger, S.N. Barilo, S.A. Guretskii 760

Neutron spin echo study of a random anisotropy magnet
R.I. Bewley, J.R. Stewart, C. Ritter, P. Schleger, R. Cywinski 762

Magnetic excitations in polyoxometalate tetrameric clusters
M. Aebersold, H.P. Andres, H. Büttner, J.J. Borrás-Almenar, J.M. Clemente, E. Coronado, H.U. Güdel, D. Kearley 764

Antiferromagnetic fluctuations in a modified pyrochlore
Th. Zeiske, M.J. Harris, M.P. Zinkin 766

Nuclear order in silver at pico-Kelvin temperature
K. Siemensmeyer, K.N. Clausen, K. Lefmann, O.V. Lounasmaa, A. Metz, K.K. Nummila, F.B. Rasmussen, M. Steiner, J.T. Tuoriniemi, R.T. Vuorinen 768

Magnetic ordering in Praseodymium metal at millikelvin temperatures
A. Metz, B. Schröder-Smeibidl, A.A. Moolenaar, M. Ellerby, K.A. McEwen, M. Manns, M. Steiner 770

Spin densities in magnetic molecular compounds
J. Schweizer 772

Magnetic structure of the molecular compound $Fe(dtc)_2Cl$
G. Antorrena, G. LeCaër, B. Malaman, F. Palacio, E. Ressouche, J. Schweizer 780

Magnetic structure of two- and three-dimensional supramolecular compounds
R. Pellaux, H.W. Schmalle, S. Decurtins, P. Fischer, F. Fauth, B. Ouladdiaf, T. Hauss 783

Spin density in the tetrahedral copper complex of an enaninoketon nitroxide
Y. Pontillon, V.I. Ovcharenko, E. Ressouche, P. Rey, P. Schleger, J. Schweizer 785

Spin density in the free radical NitPy(C≡C–H)
Y. Pontillon, E. Ressouche, F. Romero, J. Schweizer, R. Ziessel 788

Computer database of magnetic structures determined by neutron diffraction
M. Dul, B. Lesniewska, A. Oles, L. Pytlik, W. Sikora 790

Chapter 8. Highly correlated electron systems

Dynamic susceptibility in two-dimensional Hubbard model
I. Eremin 792

Neutron spectroscopic studies of crystalline electric field in infinite-layer $Sr_{1-x}Nd_xCuO_2$
A. Podlesnyak, A. Mirmelstein, V. Bobrovskii, B. Goshchitskii, E. Mitberg, A. Muzychka, I. Sashin, R. Eccleston, J. Mesot, M. Zolliker, S. Rosenkranz, W. Henggeler, A. Furrer 794

Single-crystal diffraction study of phase separation in $La_2CuO_{4+\delta}$
A.M. Balagurov, V.Yu. Pomjakushin, V.G. Simkin, A.A. Zakharov 797

Spin dynamics study of $La_{2-x}Sr_xCuO_4$ by inelastic neutron scattering
S. Petit, A.H. Moudden, B. Hennion, A Vietkin, A. Revcolevschi 800

2D magnetic behaviour of Nd in Nd_2CuO_4 below T_N
H. Casalta, P. Bourges, D. Petitgrand, M. d'Astuto, A. Ivanov 803

Low-energy magnetic excitations in Nd_2CuO_4
D. Petitgrand, H. Casalta, P. Bourges, A.S. Ivanov 806

Magnetic correlations in heavy fermion $Nd_{1.85}Ce_{0.15}CuO_4$
N.M. Pyka, M. Loewenhaupt, A. Metz, N.T. Hien 808

Crystal-field transitions in $(RE)_{2-x}Ce_xCuO_4$: Raman versus inelastic neutron scattering
T. Strach, T. Ruf, M. Cardona, S. Jandl, V. Nekvasil 810

Neutron investigation of $Nd_{2-x-y}Ce_xLa_yCuO_4$ ($0 \leqslant x \leqslant 0.2$; $y = 0.5, 1$)
M. Gutmann, P. Allenspach, F. Fauth, A. Furrer, M. Zolliker, S. Rosenkranz, R.S. Eccleston 812

Neutron scattering study of the structural phase transition in Eu_2CuO_4
P. Vigoureux, A. Gukasov, S.N. Barilo, D. Zhigunov 815

Neutron powder diffraction study of the infinite-layer compounds $Sr_{1-x}Nd_xCuO_2$
V. Bobrovskii, A. Mirmelstein, A. Podlesnyak, I. Zhdakhin, B. Goshchitskii, E. Mitberg, V. Zubkov, T. D'yachkova, N. Kadyrova, E. Khlybov, F. Fauth, A. Furrer 818

Spin excitations and phonons in $YBa_2Cu_3O_{6+x}$: A status report
B. Keimer, I.A. Aksay, J. Bossy, P. Bourges, H.F. Fong, D.L. Milius, L.P. Regnault, D. Reznik, C. Vettier 821

High magnetic field dependence of spin fluctuations in $YBa_2Cu_3O_7$
P. Bourges, H. Casalta, L.P. Regnault, J. Bossy, P. Burlet, C. Vettier, E. Beaugnon, P. Gautier-Picard R. Tournier 830

The application of polarized neutrons for visualization of longitudinal and transverse currents in a Josephson medium
G.P. Gordeev, L.A. Akselrod, S.L. Ginzburg, V.N. Zabenkin, I.M. Lazebnik 832

Small-angle scattering of polarized neutrons in HTSC ceramics
G. Gordeyev, A. Okorokov, V. Runov, M. Runova, B. Toperverg, A. Brulet, R. Kahn, R. Papoular, J. Rossat-Mignod, H. Glattli, H. Eckerlebe, R. Kampmann, R. Wagner 837

The observation of the magnetic correlations in $YBa_2 (Cu_{1-x}Fe)_3O_{7+y}$ ceramics by small-angle polarized neutron scattering
G. Kopitsa,V. Runov, A. Okorokov 839

Magnetic properties of Tb doped in $YBa_2Cu_3O_x$
U. Staub, F. Fauth, M. Gutmann, W. Kagunya 841

Ca substitutions in $RBa_2Cu_3O_{7-\delta}$ (R = Y, Er; $\delta < 0.15$): The influence on structure and superconductivity
G. Böttger, J. Mesot, P. Fischer, A. Furrer 843

Magnetic properties of Co- and Cu-doped $RNi_2{}^{11}B_2C$ (R = Ho, Er) measured by neutron scattering
U. Gasser, P. Allenspach, A. Furrer 846

The Jahn–Teller structural transition in stoichiometric $LaMnO_3$
J. Rodríguez-Carvajal, M. Hennion, F. Moussa, L. Pinsard, A. Revcolevschi 848

New dynamical features in $La_{0.95}Ca_{0.05}MnO_3$
M. Hennion, F. Moussa, J. Rodriguez-Carvajal, L. Pinsard, A. Revcolevschi 851

Magnetostructural effects in insulating and metallic $La_{0.85-x}Y_{0.15}Ca_xMnO_3$ ($x < 0.50$)
J.L. García-Muñoz, M. Suaaidi, C. Ritter 854

Jahn–Teller effect and ferromagnetic ordering in $La_{0.875}Sr_{0.125}MnO_3$: A reentrant behaviour
L. Pinsard, J. Rodríguez-Carvajal, A.H. Moudden, A. Anane, A. Revcolevschi, C. Dupas 856

Spin waves of lightly doped $La_{1-x}Sr_xMnO_3$
A.H. Moudden, L. Vasiliu-Doloc, A. Goukassov, A.M. De Leon-Guevara, L. Pinsard, A. Revcolevschi 859

Spin dynamics of the Kondo insulator CeNiSn approaching the metallic phase
A. Schröder, G. Aeppli, T.E. Mason, E. Bucher 861

Crystal fields in the valence-unstable CeNi-based compounds
E.S. Clementyev, P.A. Alekseev, M.N. Khlopkin, V.N. Lazukov, I.P. Sadikov, W. Bührer, A.Yu. Muzychka 864

On the interplay between heavy-fermion and soft crystal field excitations in Kondo lattices
Yu. Kagan, K.A. Kikoin, A.S. Mishchenko 867

Spin dynamics in cerium ternary stannides and antimonides
J. Pierre, A. Guzik, K. Kaczmarska, A.P. Murani 870

First-order valence change in $CeNi_{1-x}Co_xSn$ ($0.35 \leqslant x \leqslant 0.4$)
J.M. De Teresa, D.T. Adroja, B. Rainford, K.S. Knight, A. del Moral, M.R. Ibarra 872

Crystal electric field effects on the magnetic form factor of the Kondo compound $CeNi_2Al_5$
J.X. Boucherle, F. Givord, J. Schweizer, Y. Isikawa 875

The phase diagram of $CeCu_2(Si_{1-x}Ge_x)_2$
A. Krimmel, A. Loidl 877

Magnetic excitations and variation of valence in SmB_6-based systems
P.A. Alekseev, J.-M. Mignot, E.S. Clementyev, V.N. Lazukov, I.P. Sadikov 880

Intermultiplet transitions and crystal field in mixed valence Sm_3Te_4
P.A. Alekseev, P. Fabi, J.-M. Mignot, E.V. Nefeodova, A. Ochiai, S.A. Riazantsev 883

Magnetization density in the intermediate valence compound $YbAl_3$
A. Hiess, J.X. Boucherle, F. Givord, J. Schweizer, E. Lelièvre-Berna, F. Tasset, B. Gillon, P.C. Canfield 886

High-energy neutron scattering from heavy-fermion systems $Ce(In_{1-x}Sn_x)_3$ and $Ce(Pt_{1-x}Rh_x)_2$
A.P. Murani, R.S. Eccleston 888

Non-collinear magnetic ordering in $U_2Rh_3Si_5$
R. Feyerherm, B. Becker, M.F. Collins, J. Mydosh, G.J. Nieuwenhuys, S. Ramakrishnan 891

Magnetic structures of $NpBe_{13}$ and $NpPd_2Al_3$
A. Hiess, M. Bonnet, P. Burlet, E. Ressouche, J.-P. Sanchez, F. Boudarot, J.C. Waerenborgh, S. Zwirner, F. Wastin, J. Rebizant, G.H. Lander, E. Suard, J.L. Smith 893

Low-energy response in the spin-ladder compound $(VO)_2P_2O_7$
R.S. Eccleston, H. Mutka, C. Payen 895

Chapter 9. Neutron scattering in materials science and industrial research

Phonon softening and martensitic transformation in α-Fe
J. Neuhaus, W. Petry, A. Krimmel 897

Phonon dispersion in Fe–18Cr–10Mn–15Ni FCC steel
S.A. Danilkin, E.L. Jadrowski 900

Quasi-elastic neutron-scattering measurements on the $ZrTi_2H_{3.6}$ C-15 Laves phase compound
J.F. Fernandez, M. Kemali, M.R. Johnson, D.K. Ross 903

Inelastic neutron-scattering measurements on the C15 Laves phase compounds HfV_2H_x
M. Kemali, C.E. Buckley, D.K. Ross, S.M. Bennington, S.F. Parker 906

Dynamics of water in hydrotalcite
W. Kagunya, P.K. Dutta, Z. Lei 910

Water dynamics in Na zeolite P by QENS
P.D. Shepherd, W.W. Kagunya, S.I. Campbell, A.P. Chapple, J.W. Dreyer, R.J. Humphreys, M. Kemali, M. Mercer, D.K. Ross 914

Ethanol in chabazite at temperatures between 300 and 440 K studied by neutron time-of-flight spectroscopy
R. Stockmeyer 917

Problems of slow-neutron study of liquid alkali metals: The pottassium–oxygen system
M.V. Zaezjev, M.N. Ivanovsky, D.I. Karymov, A.G. Novikov, V.V. Savostin 919

The use of neutrons in the analysis of the non-linear optical phenomenon
J.M. Cole, B. Dorner, J.A.K. Howard, G.J. McIntyre 922

A study of the tetragonal to ortho 1 phase transition in $YBa_2Cu_3O_x$
M. Mercer, S.I. Campbell, S.M. Bennington, J.W. Dreyer, M. Kemali, P.D. Shepherd, D.K. Ross 925

Structure properties and oxygen content in $Y_{0.6}Ca_{0.2}Ba_2Cu_3O_y$ (y = 6.03 – 6.89) by neutron diffraction
S. Vratislav, M. Dlouhá, J. Hejtmánek, Z. Jirák, K. Knízek 928

Determination of the Fe/Sn atoms distribution in $BaSn_2Fe_4O_{11}$ by neutron and synchrotron radiation diffraction
R. Przeniosło, I. Sosnowska, P. Fischer, T. Wroblewski, M. Shiojiri 931

Neutron diffraction studies of the Fe^{3+} magnetic moments arrangements in the spin-glass systems $BaTi_2Fe_4O_{11}$ and $BaSn_2Fe_4O_{11}$
I. Sosnowska, R. Przeniosło, P. Fischer, M. Shiojiri 934

Investigation of the atomic arrangement in the high-temperature proton conductor $Ba_3Ca_{1.18}Nb_{1.82}O_{9-\delta} + yD_2O$
K. Lind, I. Sosnowska, R. Hempelmann, W. Schäfer, K. Knight 937

Investigation of th Hg-1201 structure under external pressure up to 5 GPa by means of neutron powder diffraction
V.L. Aksenov, A.M. Balagurov, B.N. Savenko, D.V. Sheptyakov, V.P. Glazkov, V.A. Somenkov, S.Sh. Shilshtein, E.V. Antipov, S.N. Putilin 940

Powder neutron diffraction studies of the thermal expansion, compressibility and dehydration of deuterated gypsum
P.F. Schofield, I.C. Stretton, K.S. Knight, S. Hull 942

Neutron diffraction measurements on the C15 Laves phase TaV_2D_x
M. Kemali, M. Mercer, D. Sun, D.K. Ross, P. Langan 945

Neutron scattering in engineering applications
G.A. Webster, A.N. Ezeilo 949

Microstrain characterization of metals using high-resolution neutron diffraction
P. Lukáš, Z. Kouřil, P. Strunz, P. Mikula, M. Vrána, V. Wagner 956

Residual stress investigations by neutron diffraction at JRC-Petten
A.G. Youtsos, C. Ohms, Th. Timke 959

Application of RTOF for integrated substructure analysis in polycrystalline materials
T. Kschidock, P. Klimanek, H.G. Priesmeyer 962

Substructure analysis in polycrystalline materials by means of neutron diffraction
P. Klimanek, T. Kschidock, P. Mikula, M. Vrana 965

Neutron diffraction investigations of stresses in austenitic steel
A.M. Balagurov, G.D. Bokuchava, J. Schreiber, Yu.V. Taran 967

Neutron diffraction measurement of the triaxial stress field in a fatigued test specimen
M. Ceretti, C.A. Hippsley, M.T. Hutchings, A. Lodini, C.G. Windsor 969

In situ phase strain phase monitoring during isothermal creep of metal matrix composites
H.M.A. Winnand, P.J. Withers 972

Microstructural dependence of thermal residual microstresses in PMMCs
A. Pyzalla, W. Reimers 974

Neutron diffraction texture analysis
H.G. Brokmeier 977

Neutron texture measurement with applied magnetic field
U. Zink, H.-G. Brokmeier, H.J. Bunge 980

Guinier–Preston zones in Al-rich Al–Cu and Al–Ag single crystals
B. Schönfeld, A. Malik, G. Kostorz, W. Bührer, J. Skov Pedersen 983

Investigation of the early stages of the decomposition reaction in Cu–0.9 at % Ti alloy at 350°C
M. Haese-Seiller, R. Kampmann, P. Staron, R. Wagner 986

Nucleation in a Ni–13at% Al alloy – Polarized neutron scattering studies and clusterdynamics modelling
P. Staron, M. Haese-Seiller, R. Kampmann, R. Wagner 989

Investigation of the decomposition of an Fe–30 at % Cr–14 at % Co alloy by polarized small- and wide-angle neutron scattering
Y.J. Wang, R. Kampmann, R. Wagner 992

Decomposition and crystallization of the bulk amorphous $Zr_{11}Ti_{34}Cu_{47}Ni_8$ alloy studied by SANS
U. Gerold, A. Wiedenmann, U. Keiderling, H.-J. Fecht 995

SANS investigations of the irradiation-caused structural damages in VVER 440-type reactor pressure vessel steels
J. Boehmert, M. Grosse, P. Nitzsche 997

Microstructural evolution, and tempering at 700° C, in a steel for fusion reactors
M. Ceretti, R. Coppola, F. Fiori, M. Magnani 999

Magnetic correlations in $Fe_{80}B_{20}$ studied by magnetic small angle neutron scattering
F. Malizia, A. Deriu, F. Ronconi 1003

Random field interactions in nanostructured ferromagnets studied by small-angle neutron scattering and magnetization measurements
J. Löffler, W. Wagner, G. Kostorz, A. Wiedenmann 1005

Investigation of γ' precipitates in nickel-base single-crystal superalloy (SC 16) by SANS
R. Gilles, D. Mukherji, P. Strunz, A. Wiedenmann, R.P. Wahi 1008

SANS investigation of plasma-sprayed materials using a double-crystal diffractometer
J. Šaroun, F. Eichhorn, A. Hempel, P. Lukáš, B. Kolman, K. Neufuss, P. Mikula, P. Strunz 1011

Small-angle neutron scattering in porous silicon
G. Kádár, G. Káli, Cs. Dücső, É.B. Vázsonyi 1014

Characterization of an alumina membrane by neutron scattering and other techniques
Th. Steriotis, A. Mitropoulos, N. Kanellopoulos, U. Keiderling, A. Wiedenmann 1016

Joint use of double crystal diffractometry, beam broadening and conventional SANS for analysis of creep pore formation in liquid-phase sintered alumina
M. Klatt, D. Bellmann, R. Kampmann, R. Wagner, C. Wolf, H. Hübner 1019

Measurement of cavitation damage in isothermally crept Al/SiC_p composites using small-angle neutron scattering
H.M.A. Winand, P.J. Withers, A.F. Whitehouse 1022

SANS observations on weakly flocculated dispersions
N. Mischenko, G. Ourieva, K. Mortensen, H. Reynaers, J. Mewis 1024

Neutron depolarization as a tool for studying phase transformations in steels
S.G.E. te Velthuis, M.Th. Rekveldt, J. Sietsma, S. van der Zwaag 1027

Determination of hydrogenous distributions by neutron transmission analysis
H. Pleinert, E. Lehmann 1030

Neutron radiography visualization of internal processes in refrigerators
M. Balaskó, E. Sváb, A. Vida, I. Szikra 1033

Chapter 10. Developments in neutron sources and instruments

A high-resolution disk chopper with two-stage rotors for neutron time-of-flight spectroscopy
M. Ono 1035

Supermirror-based beam devices
P. Böni 1038

Large θ_c neutron supermirrors and stress evolution with irradiation
K. Al Usta, A. Menelle, K. N'Guy 1044

Focussing neutrons to study small samples
I.N. Goncharenko, I. Mirebeau, P. Molina, P. Böni 1047

Interface effects in FeCO–Si magnetic multilayers
D.J. Müller, Th. Krist, P. Schubert-Bischoff, F. Mezei 1050

High-resolution focussing SANS with a toroidal neutron mirror
B. Alefeld, C. Hayes, F. Mezei, D. Richter, T. Springer 1052

Plastically deformed beryllium blades for neutron monochromator construction
C. May, P. Klimanek, H.M. Mayer 1055

Bragg diffraction optics on neutron diffractometers
P. Mikula, P. Lukáš, M. Vrána 1058

A novel double-crystal analyser system for the PRISMA spectromoter at ISIS
M.J. Bull, M.J. Harris, U. Steigenberger, M. Hagen, C. Petrillo, F. Sacchetti 1061

How to rejuvenate an old lady: New crystals for the backscattering spectrometer IN10
O.G. Randl, H. Franz, T. Gerstendörfer, W. Petry, G. Vogl, A. Magerl 1064

Cold neutron storage by perfect crystals
E. Jericha, C.J. Carlile, M. Jäkel, H. Rauch 1066

The first neutron interferometer built of holographic gratings
U. Schellhorn, R.A. Rupp, S. Breer, R.P. May 1068

High-efficiency transmission neutron polarizer for high-resolution double crystal diffractometer
A. Ioffe, G. Gordeev, B. Ibrayev, Th. Krist, F. Mezei 1071

Development of $Fe_{3-x}Mn_xSi$ ($x = 0.05$) as monochromator for polarized neutrons
S. Bednarski, K. Siemensmeyer, M. Slepowronski, E. García-Matres, M. Winkelmann 1074

The increase in neutron reflectivity from $Co_{0.92}$ $Fe_{0.08}$ alloy single crystal plates resulting from cold hammering of the plates
M. Slepowroñski, S. Bednarski, K. Siemensmeyer, M. Winkelmann 1076

Realization of a broad-band neutron spin filter with compressed, polarized ^{3}He gas
J. Becker, M. Ebert, T. Grossmann, W. Heil, D. Hofmann, H. Humblot, M. Leduc, E.W. Otten, D. Rohe, K. Siemensmeyer, R. Surkau, M. Steiner, F. Tasset, N. Trautmann 1078

Peculiarities of the construction of broad-band adiabatic flipper of neutrons
S.V. Grigoriev, V.V. Runov, A.I. Okorokov 1080

A large high counting rate one-dimensional position sensitive detector: the D20 banana
P. Convert, M. Berneron, R. Gandelli, T. Hansen, A. Oed, A. Rambaud, J. Ratel, J. Torregrossa 1082

A new neutron detector development based on silicon semiconductor and ^{6}LiF converter
J. Schelten, M. Balzhäuser, F. Höngesberg, R. Engels, R. Reinartz 1084

Use of an image plate for the study of phase transitions with the neutron Laue method
J.C. Marmeggi 1087

Comparative diffraction experiments using monochromatic and pulsed white neutrons
W. Schäfer, W. Kockelmann, E. Jansen, G. Will 1090

Rietveld analysis of intensity data taken on the TOF neutron powder diffractometer VEGA
T. Ohta, F. Izumi, K. Oikawa T. Kamiyama 1093

Arrangement of surfactant molecules in the internal surfaces of layered materials
S. Williams, A.I. Becerro, M.A. Castro, R.K. Thomas 1096

Multidetector RTOF analyzer
V.G. Mouratov, A.M. Pirogov 1099

RESTRAX – a program for TAS resolution calculation and scan profile simulation
J. Šaroun, J. Kulda 1102

Analytical resolution calculation beyond the Gaussian limit
W. Schmidt 1105

Phonon lines shapes and excitation energies
B. Fåk, B. Dorner 1107

Two-dimensional measurements of magnons
D. Hohlwein, H.M. Mayer, Th. Zeiske 1109

A new software package for SANS data processing at the Hahn-Meitner-Institut in Berlin, Germany
U. Keiderling 1111

Thermal neutron scattering by solids: Development and applications of a synthetic scattering law
G.J. Cuello, J. Dawidowski, J.R. Granada 1114

The phase problem in neutron reflection
R. Lipperheide, J. Kasper, H. Leeb, G. Reiss 1117

A comparison of spin echo and conventional neutron instruments by the coherence properties of the neutrons
T. Keller, W. Besenböck, J. Felber, R. Gähler, R. Golub, P. Hank, M. Köppe 1120

Recent developments and results from the neutron resonance spin-echo spectrometer (NRSE) at BENSC Berlin
T. Keller, R. Golub, F. Mezei, R. Gähler 1126

The Jülich spin-echo instrument NSE: Commencement of operations
R. Schätzler, M. Monkenbusch 1128

Zero-field neutron spin echo techniques for incoherent scattering
P. Hank, W. Besenböck, R. Gähler, M. Köppe 1130

Neutron resonance spin echo with multidetector
U. Schmidt, S. Biche, W. Häußler, D. Dubbers 1133

Neutron reflectometry and SANS by neutron spin echo
M.Th. Rekveldt 1135

Improvement of Fourier method and Fourier diffractometer for internal residual strain measurements
V.A. Kudryashev, V.A. Trounov, V.G. Mouratov 1138

ENGIN – A new instrument for engineers
M.W. Johnson, L. Edwards, P.J. Withers 1141

TEX-2 the texture diffractometer at the GKSS-research centre
H.-G. Brokmeier 1144

The twin-diffractometer SV7 at the FRJ-2 as a workhorse for structure and texture research
W. Schäfer, E. Jansen, R. Skowronek, A. Kirfel 1146

The ROTAX/DIFF time-of-flight diffractometer at ISIS
H. Tietze-Jaensch, W. Kockelmann, W. Schmidt, G. Will 1149

Evaluation of the ROTAX spectrometer
H. Tietze-Jaensch, W. Schmidt, R. Geick 1152

SLAD: The Studsvik disordered materials diffractometer
A. Wannberg, R.G. Delaplane, R.L. McGreevy 1155

Powder diffraction using time-of-flight monochromatisation
J.A. Stride, F. Mezei, H.-J. Bleif, C. Guy 1157

Single-shot neutron transmission diffraction
K. Meggers, H. G. Priesmeyer, M. Stalder, S. Vogel, W. Trela 1160

Neutron diffraction using Larmor precession
W.H. Kraan, C.T. Kaiser, M.Th. Rekveldt 1163

Focusing polarisation analysis at the diffuse neutron scattering spectrometer (DNS) in Jülich
W. Hahn, W. Schweika 1165

PNR – a novel neutron reflectometer with spin analysis of the reflected neutrons
C. Bittorf, M. Stamm, R. Kampmann 1168

Neutron magnetic tomography – A novel technique
G. Badurek, M. Hochhold, H. Leeb 1171

FOCUS: a hybrid TOF-spectrometer at SINQ
S. Janßen, J. Mesot, L. Holitzner, A. Furrer, R. Hempelmann 1174

The new backscattering spectrometer IN16 at the ILL
B. Frick, A. Magerl, Y. Blanc, R. Rebesco 1177

Neutron interferometer in the velocity space – a new type of high-resolution neutron spectrometer
A. Ioffe 1180

Precise determination of the neutron scattering length of tellurium
A. Ioffe, S. Neov 1183

Measurement of atomic momenta by high energy neutron scattering
J. Mayers 1186

The investigation of UCN interaction with the surface of beryllium and stainless steel by the new method based on the neutron induced γ-radiation analysis
L. Bondarenko, S. Chernyavsky, A. Fomin, P. Geltenbort, V. Morozov, S. Shilkin 1189

The Kiel/Berlin high-pressure cells for neutron powder diffraction
W. Depmeier, K. Knorr, B. Annighöfer 1192

Liquid hydrogen cold moderator optimization at the Budapest Research Reactor
T. Grósz, V.A. Mityukhlyaev, L. Rosta, A.P. Serebrov, A.A. Zaharov 1194

Neutron guide system at the Budapest Research Reactor
L. Rosta, T. Belgya, L. Cser, T. Grósz, Gy. Kaszás, G. Molnár, Zs. Révai, Gy. Török 1196

Thermal neutron cross-section data for the design of cold and superthermal neutron sources
W. Bernnat, D. Emendörfer, S. Käfer, J. Keinert, M. Mattes, M. Predel 1199

SINQ – The spallation neutron source, a new research facility at PSI
W.E. Fischer (for the Project Team) 1202

Scientific prospects for the European Spallation Source
J.L. Finney 1209

The European Spallation Source Study; ESS
G.S. Bauer (for the ESS Study Team) 1214

AUSTRON project
P.J. Bryant, M. Schuster, M. Regler 1220

Material and geometry studies for the AUSTRON target
M. Schuster, I. Smid, G. Leichtfried 1224

Long pulse spallation sources
F. Mezei 1227

A pulsed source of polarized neutrons
I.P. Eremeev 1233

Chapter 11. Conference Summaries

Summary of conference presentations: Glasses, biology, polymers, chemistry, liquids
J. Colmenero 1236

Current applications of neutron scattering in condensed matter physics, materials science and engineering
R. Cywinski 1239

Summary of conference presentations: Instrumentation and sources
Ch. de Novion 1242

List of contibutors 1245

Subject Index 1255